X20(c)IF1061-1

1 General information

The interface module functions as a DP V1 master. It can be operated in X20 CPUs or in the expandable X20BC1083 POWERLINK bus controller.

- PROFIBUS DP V1 master

2 Coated modules

Coated modules are X20 modules with a protective coating for the electronics component. This coating protects X20c modules from condensation and corrosive gases.
The modules' electronics are fully compatible with the corresponding X20 modules.

For simplification purposes, only images and module IDs of uncoated modules are used in this data sheet.

The coating has been certified according to the following standards:

- Condensation: BMW GS 95011-4, 2x 1 cycle
- Corrosive gas: EN 60068-2-60, Method 4, exposure 21 days

3 Order data

Model number	Short description	Figure
	X20 interface module communication	
X20IF1061-1	X20 interface module for DTM configuration, 1 PROFIBUS DP V0/V1 master interface, electrically isolated	
X20cIF1061-1	X20 interface module coated, for DTM configuration, 1 PROFIBUS DP V0/V1 master interface, electrically isolated	
	Optional accessories	
	Infrastructure components	
0G1000.00-090	Bus connector, RS485, for PROFIBUS networks	

Table 1: X20IF1061-1, X20cIF1061-1 - Order data

4 Technical data

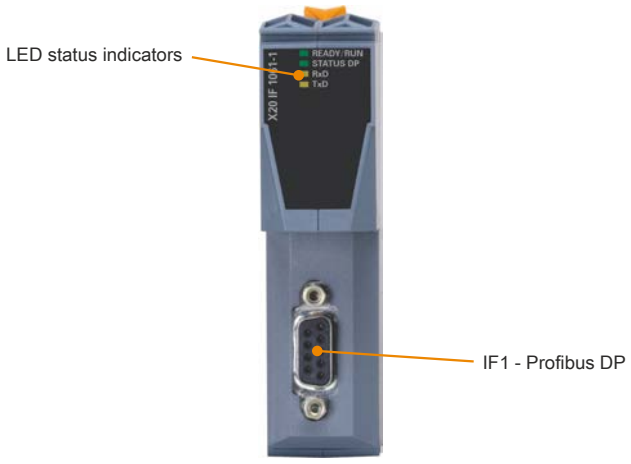
Model number	X20IF1061-1	X20cIF1061-1
Short description		
Communication module	1x PROFIBUS DP V0/V1 master	
General information		
B&R ID code	0xA716	0xE234
Status indicators	Module status, data transfer	
Diagnostics		
Module status	Yes, using status LED and software	
Network status	Yes, using status LED and software	
Data transfer	Yes, using status LED	
Power consumption	1.8 W	
Additional power dissipation caused by the actuators (resistive) [W]	-	
Electrical isolation		
PLC - IF1	Yes	
Certification		
CE	Yes	
KC	Yes	-
UL	cULus E115267 Industrial control equipment	
ATEX	Zone 2, II 3G Ex nA nC IIA T5 Gc IP20, Ta = 0 - Max. 60°C FTZÚ 09 ATEX 0083X	
LR	ENV1	
GOST-R	Yes	
Interfaces		
IF1 interface		
Fieldbus	PROFIBUS DP V0/V1 master	
Design	9-pin female DSUB connector	
Max. distance	1200 m	
Transfer rate	Max. 12 Mbit/s	
Controller	netX100	
Memory	8 MB SDRAM	
Cyclic data		
Input data	Max. 3.5 kB	
Output data	Max. 3.5 kB	
Operating conditions		
Mounting orientation		
Horizontal	Yes	
Vertical	Yes	
Installation at elevations above sea level		
0 to 2000 m	No limitations	
>2000 m	Reduction of ambient temperature by 0.5°C per 100 m	
EN 60529 protection	IP20	
Environmental conditions		
Temperature		
Operation		
Horizontal installation	-25 to 60°C	
Vertical installation	-25 to 50°C	
Derating	-	
Storage	-40 to 85°C	
Transport	-40 to 85°C	
Relative humidity		
Operation	5 to 95%, non-condensing	Up to 100%, condensing
Storage	5 to 95%, non-condensing	
Transport	5 to 95%, non-condensing	
Mechanical characteristics		
Slot	In the X20 CPU and in the X20BC1083 expandable bus controller	In the X20c CPU and in the X20cBC1083 expandable bus controller

Table 2: X20IF1061-1, X20cIF1061-1 - Technical data

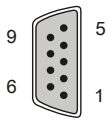
5 LED status indicators

Figure	LED	Color	Status	Description
	READY/RUN	Green/red	Off	No power to module
		Green	On	PCI bus communication in progress
		Red	Blinking	Boot error
			On	Communication on the PCI bus has not yet been started
	STATUS DP	Green	Acyclic blinking	No configuration or stack error
			Cyclic blinking	Bus is configured, but communication has not yet been enabled by the application
			On	Communication established with all slaves
		Red	Cyclic blinking	Communication to at least one slave has been disrupted
			On	Communication to one/all slave(s) has been disrupted
	RxD	Yellow	On	The module is receiving data via the PROFIBUS DP master interface
	TxD	Yellow	On	The module is transmitting data via the PROFIBUS DP master interface

6 Operating and connection elements



7 PROFIBUS DP interface

Interface	Pinout		
	Pin	RS485	
 9-pin female DSUB connector	1	Reserved	
	2	Reserved	
	3	RxD/TxD-P	Data[1]
	4	CNTR-P	Transmit enable
	5	DGND	Electrically isolated supply
	6	CP	Electrically isolated supply
	7	Reserved	
	8	RxD/TxD-N	Data\[2]
	9	CNTR-N	Transmit enable\
	CNTR ... Directional switch for external repeater		

1) Cable color: Red
2) Cable color: Green

8 Usage with POWERLINK bus controllers

If this module is connected to the expandable POWERLINK bus controller, the amount of cyclic data is limited by the POWERLINK frame to 1488 bytes in each direction (input and output).
When using multiple IF10xx-1 interfaces or other X2X modules with a POWERLINK bus controller, the 1488 bytes are divided between all connected modules.

8.1 Operating netX modules with bus controller X20BC1083

The following must be observed to operate netX modules with the bus controller without problems:

- A minimum revision ≥E0 is required for the bus controller.
- netX modules can only be operated with POWERLINK V2. V1 is not permitted.
- With SDO access to POWERLINK object 0x1011/1 on the bus controller, the netX firmware and the configuration stored on the bus controller are not reset. They can only be overwritten by accessing them again. This affects objects 0x20C0 and 0x20C8, subindexes 92 to 95.

8.2 netX error codes

netX modules return an error code when an error occurs. These error codes are fieldbus-specific. A complete list of all error codes in PDF format is available in Automation Help in section "Communication / Fieldbus systems / Support with FDT/DTM / Diagnostic functions / Diagnostics on the runtime system / Master diagnostics" under item "Communication_Error".

9 Firmware

The module comes with preinstalled firmware. The firmware is a component of Automation Studio. The module is updated to this version automatically.

To update the firmware included in Automation Studio, the hardware must be upgraded (see "Project management" / "Automation Studio upgrade" in Automation Help).

10 Minimum DTM version for coated modules

Information:

The minimum DTM version required by coated modules is 1.0370.140220.12186. This version is included beginning with Automation Studio upgrade packs V4.0.18.x and V3.0.90.29.